DOCUMENT RESUME

ED 352 085 JC 930 005

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TITLE Program Health Indicators: An Alternative Approach to Program Review.
INSTITUTION Hawaii Univ., Honolulu. Kapiolani Community Coll.
PUB DATE [92]
NOTE 16p.
PUB TYPE Reports - Descriptive (141)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *College Outcomes Assessment; College Programs; Community Colleges; *Evaluation Criteria; *Evaluation Methods; *Evaluation Problems; Performance Factors; Program Effectiveness; *Program Evaluation; Program Improvement; Self Evaluation (Groups); Two Year Colleges
IDENTIFIERS *University of Hawaii Kapiolani Community College

ABSTRACT

For the past 20 years, the University of Hawaii Community Colleges have had a formal process for the review of educational programs, requiring that each program undergo a systematic review at least once every 5 years. The result tended to be a lengthy document that chronicled the history of the previous 5 years and was far more descriptive than analytical. If the evaluation process is truly to affect program planning and operations, the review structure should provide for program differences in selecting evaluation measures; data should be current and reflect immediate issues; the review process should be manageable and involve program faculty and directors; and the review findings should be presented in an easily understood report. Kapiolani Community College has worked toward developing an alternative approach that satifies these criteria. The cornerstone of the process is the use of program health indicators. For each program, faculty, administrators, and the institutional researchers identify four to six key evaluation measures, generally involving aspects of program demand and efficiency, satisfaction, and outcomes. For each indicator, a green line, which represents a satisfactory performance level, and a red line, which indicates that serious intervention is necessary, are established. The area between the red and green lines creates a sort of caution zone, where further analysis, observation, or minor changes are indicated. Additional information is provided to allow the reader to understand the scope and context of the program. The evaluation report, not to exceed 5 to 10 pages, includes a program description, a program health indicator graph, linear graphs, tabular data, narrative analysis, and appendices. Problems encountered in pilot testing the review process included difficulties in setting realistic standards for health indicators, ineffective data systems, data-hungry faculty, low response rates not resulting in statistically significant results, and the currency of the data. A sample program review for Kapiolani's Associate Degree Nursing Program is provided, excluding appendices. (MAB)

ED352085

Program Health Indicators
An Alternative Approach to Program Review

by

John F. Morton

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Kapi'olani Community College
Honolulu, Hawaii

JC 930 005

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For the past twenty years the University of Hawaii Community Colleges have had a formal process for the review of educational programs. This process, initiated and adopted by the Board of Regents, required that each program undergo a systematic review at least once every five years to determine if there was a continuing need for the program and whether the program was continuing to serve its students and potential employers well.

This process followed an outline that called for the review to document the following:

I. Organization of the program review process
II. History and description of the program
III. Program performance and analysis
IV. Planned program changes and project program performance

The program analysis section required responses to eight questions:

1. What is the community and State need for the program?
2. Is the curriculum appropriately organized to meet program objectives?
3. Is the program appropriately organized to meet its objectives?
4. Is the level of program activity appropriate, relative to student demand for the program, and employer demand for its graduates?
5. Are program resources sufficient to meet program objectives?
6. How efficiently does the program utilize available resources?
7. How effective is the program in meeting its objective?
8. Are the academic and student support services - counseling, advising, library, media, learning assistance, clerical services, etc. - and physical facilities adequate to support the program requirements?

The result of the review was a lengthy (often 50-to-75 page) document that tended to chronicle the history of the past five years and be far more descriptive than analytical. The reviews were viewed as a task to be completed to comply with the policy rather than of much value to the actual management and operation of the program. The task for completing the review often fell to junior administrators or junior faculty, as a sort of administrative hazing or right of passage. It was clear that a different approach to reviewing programs was needed if we truly wanted to have the analysis impact the operations and planning for the program.

In trying to determine the nature of an improved system, we decided on several criteria that we would like to see included in any design. These included:

1) Different programs do not necessarily need the same data. Too often, the fixed format reports of the old review process required programs to report and analyze data that had marginal or no

meaning for the program. For example, a program in nursing where graduation is a requirement to sit for the licensure examination should monitor its graduation rates closely. A program in culinary arts, where the actual attainment of the associate degree has little economic value (students are hired based on specific culinary skills), may be less concerned or not concerned at all with graduation rates. The review structure should provide for these differences in the selection of measures for the program review and not blindly require the same information of all programs.

2) The data should be current and reflect the issues facing the program today. One of the major shortcomings of the old review process was that it was a mismatch with the way decisions are made in managing programs. The once-every-five-year review does not represent how faculty make decisions. They do not wait for five years, analyze the data, and then proceed to implement program changes. Faculty are tinkerers. They are constantly adjusting their programs and the curricula to reflect small changes in industry demand, in industry practice, and in student demand and characteristics. The review process has to be designed to provide information that supports this form of incremental decision making.

3) The review process had to be manageable. Recognizing that the first two assumptions were leading us toward a review process that was much more frequent (ideally, annually), a significant criteria was that the new process had to be workable. The notion that the cumbersome, 50-page reviews could be done annually or even biannually was not seriously considered. The new mechanism had to be operational within the staffing limits of a one-person institutional research office and faculty and department chairs continuing to do their normal duties.

4) The review process had to involve program faculty and program directors. Since the major purpose of this new review process was to impact the decision-making at the program level, the involvement of the program faculty in all aspects of the process was seen as essential. The primary decision was that the design would be driven by the needs of the program in managing the program and not by the needs of broad institutional research reports or end-of-the-year reports. This requires the involvement of faculty in both design and analysis, while technical aspects of data collection and preparation could be left to the institutional research staff.

5) The presentation had to be quickly and easily understood. We did not want the review process to result in reports that were difficult or tedious to read. We wanted instead documents that

would be easy to understand, quick to convey to the readers the strengths and weaknesses of the program, and stimulating in discussing what directions programs should go. This meant far more reliance on graphics than text and relegation of non-essential information to appendices or oblivion.

With the assistance of Peter Ewell of the National Center for Higher Education Management Systems, Kapi'olani Community College has worked toward developing an alternative approach that satisfies these criteria. The cornerstone of the process is the use of program health indicators - a name drawn from its analogy with the health care field. When an individual goes for a physical examination, there are generally a few basic tests that provide the data to the physician on which to base the health of the individual. If those tests show data that are within normal guidelines, then the individual is judged OK and told to come back next year. If the test results fall outside the normal ranges, then the patient is either counseled about improvements or subjected to additional tests to try to determine the extent of the problem. The more serious the deviation, the more serious the intervention.

A similar process is designed into the new program review process. For each program, faculty, working with administrators and the institutional researcher, identify four to six key measures of their programs. These measures generally involve aspects of program demand, program efficiency, satisfaction, and outcomes. The exact choices of the indicators are program-specific (although several programs choose the same indicators). There is no requirement that a program have a specific indicator although it is essential that all data definitions remain the same. Program A may choose as one of its measures the performance of students on a licensure examination. Program B, lacking such an examination, may choose a different outcome measure such as student job placement rates.

For each indicator, again in conjunction with administrators and institutional research, the faculty determine two levels of performance. The first level, conveniently called the green line, represents the value of the indicator above which everyone is satisfied. The second level, called the red line, represents the value of the indicator where there is serious concern and significant intervention is likely. The area between the green line and red line creates a sort of caution zone, where further analysis, observation, or minor changes are indicated. For example, if nursing selects as one of its indicators student performance on the licensure examination, they may decide that a pass rate of 85% is acceptable (green line), 70% is totally unacceptable (red line), and anything between 70% and 85% is worth worrying about to see what may be contributing to a potential problem.

The choice of these levels may also vary from program to program. Program A may choose a much higher graduation rate than Program B if

graduation is a key to seeking employment. The choices are also not fixed in time. A program on the rebound may set a criteria for student enrollment reflecting a targeted growth of 50 new students while that same program when stable may be satisfied with only 40 new students per year. Each of these choices - the health indicators themselves and the criterion levels that represent satisfaction with performance - are driven by the needs and goals of the program and involve both faculty and management input.

Each year, the four to six health indicators are plotted graphically side by side (see Graph 1). A line graph overlays these indicators and depicts where the program falls relative to its stated goals. If a program generally falls within the green zone, then little analysis or follow-up is needed or done. If a program has several indicators within the yellow zone, then more analysis is needed and additional institutional research may be conducted. If a program has several indicators within the red zone, then the program is likely in serious trouble, and a full-scale intervention and analysis is indicated.

In this way, the energies of the institution can be focussed on those programs needing the most help. Neither the administration, institutional research, nor the faculty have to spend time doing extensive make-work reports for programs that are essentially healthy. Instead, that time and effort can help to address problem areas as they begin to appear in a program. It is important to understand that the health indicators are not intended to be decision tools by themselves. There is no automatic assumption that any program falling within the red zone should be immediately eliminated or phased out. Instead, the health indicators serve as a triggering mechanism to invoke a response when something may be wrong with a program.

While the health indicators are the heart of this system, there is additional information provided to the faculty and to the reader of the review. This additional information is included to allow the reader to understand the scope and context of the program and perhaps to provide some cues as to why certain indicators may have the values they do. In all cases, though, the additional information must conform to the conditions that the report be brief and readable. The full report is outlined as follows:

I. Description of program and program goals. Limited to one page in length and designed to give the reader a context for the information that follows.

II. Program Health Indicator Graph. Limited to one page and presented in color to illustrate clearly the state of the program.

III. Linear Graphs. Generally, two to three data elements that are presented in graph format covering the last six years of data for that element. This provides some historical context and trend data for certain measures like enrollment, applications,

graduation rates. These measures may or may not be the same as those included in the health indicators graph.

IV. Tabular Data. Limited to one page and including some data elements not reflected in either the program health indicators or the linear graphs. The data may also present the actual values of the data elements in some of the health indicator data.

V. Narrative Analysis and Recommendations. This section is completed by faculty in the program and may range in length from one page to several pages depending on the "health" of the program and the depth of analysis that must be completed. This section also allows the faculty to interject any additional information from sources not included in the normal database. An example of such information might be changes in State law that will generate curricular changes in a particular program.

Appendices. The appendices include descriptive information such as the history of the program, the faculty, the advisory committee members, the curriculum, and the definitions of the key data elements, all as reference for the reader.

The complete review is then no more than 5 to 10 pages with a heavy reliance on graphics, a length and style that we feel is manageable for even an annual review. A sample of a complete review for the Associate Degree Nursing Program (without appendices) is included as an appendix to this paper.

The process of the annual review generally follows this timetable:

9/1 - 10/31	Institutional Research collects data based on Fall enrollment, previous-year graduation and transfer rates, etc.
9/1 - 10/31	Institutional Research conducts surveys based on the survey schedule. This includes surveys of employers, current students, leavers, and advisory committee members. Not all surveys are conducted each year.
9/1 - 10/31	Program personnel make modifications to descriptions to reflect changes from the previous year.
11/1-11/30	Institutional research inputs data and prepares health indicator charts, trend graphs, and data tables.
12/1	Institutional research forwards information to program with suggested areas of analysis.

12/1-1/31	Program personnel complete analysis and narrative with review by Dean.
2/1-3/31	Additional research conducted by institutional research, if needed.
4/1	All reviews completed with recommendations for changes for the next year.

This review process has been piloted for three programs and is now in its first year of full operation. This early pilot effort is promising but has also indicated some problem areas with implementation (some of which are still unresolved). These include:

1) the initial determination of the health indicators can be a time-consuming task and must involve both faculty and administrative perspectives. Most faculty have not considered what measures they really need as they manage their programs and even less frequently what level of performance on those measures would be satisfactory to them. They will sometimes set too high a standard - "we want 100% pass rates on this examination" or too low - "we will be satisfied if 25% of the students are satisfied". After discussion and reassurance that the process is designed to help manage the program, standards can be agreed upon that are satisfactory to both management and the faculty.

2) the current data systems do not always provide the data in formats or ways that are useful and necessary for good program management. This has required us to design special routines to extract and manipulate data to make it relevant to the program indicators the faculty have chosen. In some instances, the indicators chosen do not yet have data available and totally new data collection mechanisms have had to be designed and established.

3) the faculty are data hungry. We have found that most faculty are eager to get information about their students and the students' performance. This has often resulted in requests for information and data that is far in excess of what we can manage. There has had to be a process of negotiating on what is a reasonable amount of information that can be provided.

4) the response rates on survey instruments for small programs do not result in statistically significant results. We have begun to explore ways to increase response rates through phone follow-up or to consider other means such as focus groups to obtain feedback on student and employer satisfaction for small programs.

5) the currency of the data. To make the report most useful, current year data are provided. However, for some measures, current year data are not available at the time the report is finalized. Examples of these measures are graduation rates and cost data. In the end, the report presents a combination of two years of data. Care should be given to dating the statistics used.

It will take some time to resolve these problems and to determine if the new process is indeed manageable and does provide the faculty with better information in managing their programs.

SAMPLE PROGRAM REVIEW
(Without Appendices)

KAPIOLANI COMMUNITY COLLEGE

ASSOCIATE DEGREE NURSING PROGRAM

1991-92

DESCRIPTION

The Associate Degree Nursing program prepares students to work as registered nurses in hospitals, clinics, and a variety of health settings. Students are admitted to the program after one semester to one year of pre-requisite course work in the basic sciences and general education. Licensed practical nurses may also enter the second year of the program after completing a refresher course.

The nursing program itself is a rigorous two years in length, including summers. Students learn through lectures, on-campus laboratories, and extensive clinical experience in local hospitals. After graduation, students must pass the registry examination before being allowed to practice nursing.

The Associate Degree Nursing program is one of the most popular programs at Kapiolani. There is a severe shortage of nurses and this shortage, coupled with rising salaries, have attracted students in large numbers. It is anticipated that the nursing shortage in Hawaii will continue throughout the 1990's.

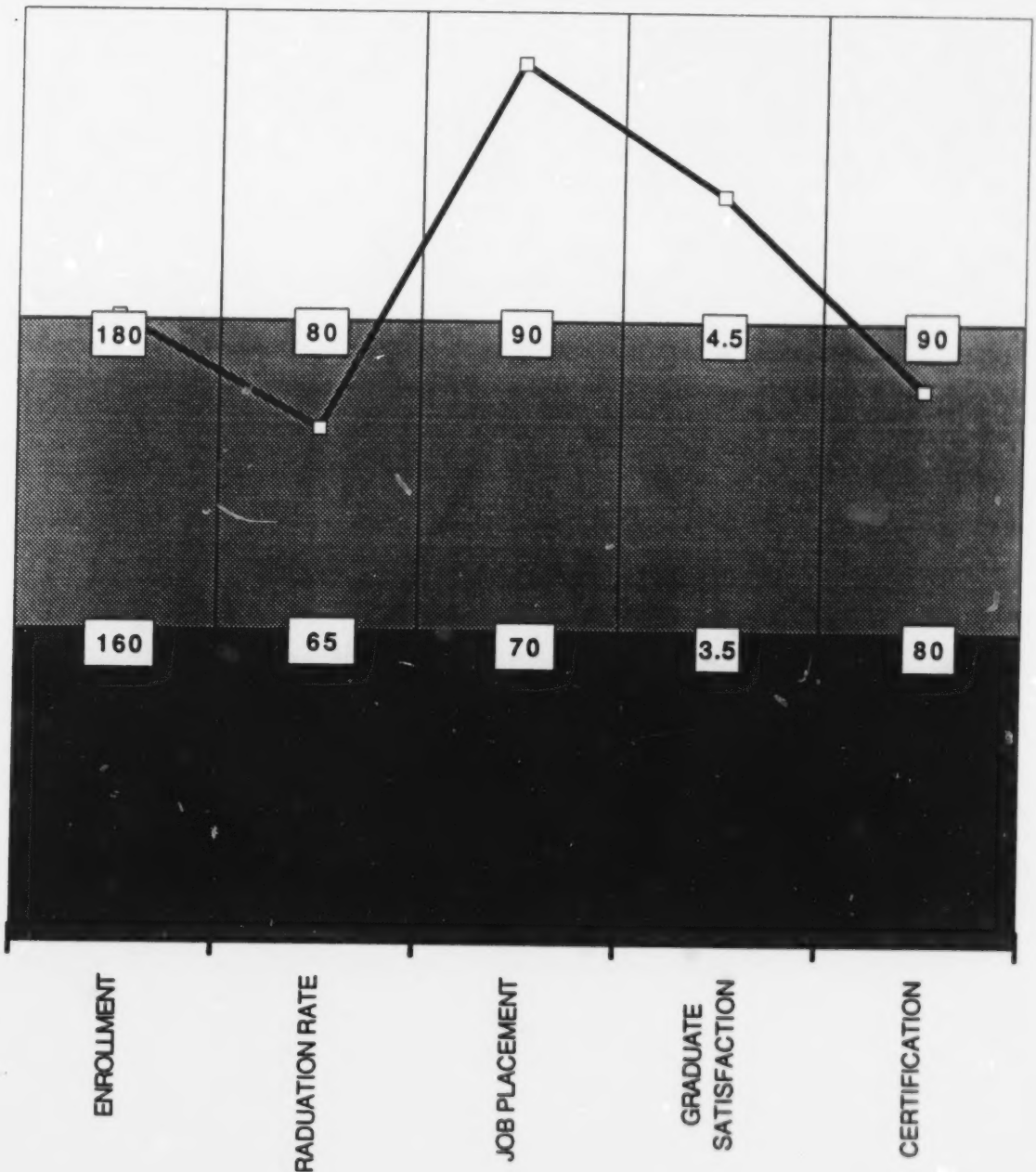
The program at Kapiolani is relatively new and the first students were admitted in Spring 1989. It has grown rapidly in response to a State initiative to reduce the critical nurse shortage and will reach its capacity of 200 to 220 students by 1992. The Associate Degree Nursing program is one of the offerings of the Nursing Department, which also offers programs for licensed practical nurses, nurse aides, adult residential care operators, and home health aides.

Students completing the program may also transfer to the University of Hawaii - Manoa and work toward a B.S.N. degree. The two degree programs are articulated so that students transfer with junior standing and can complete their B.S.N. with two years of additional study.

GOAL

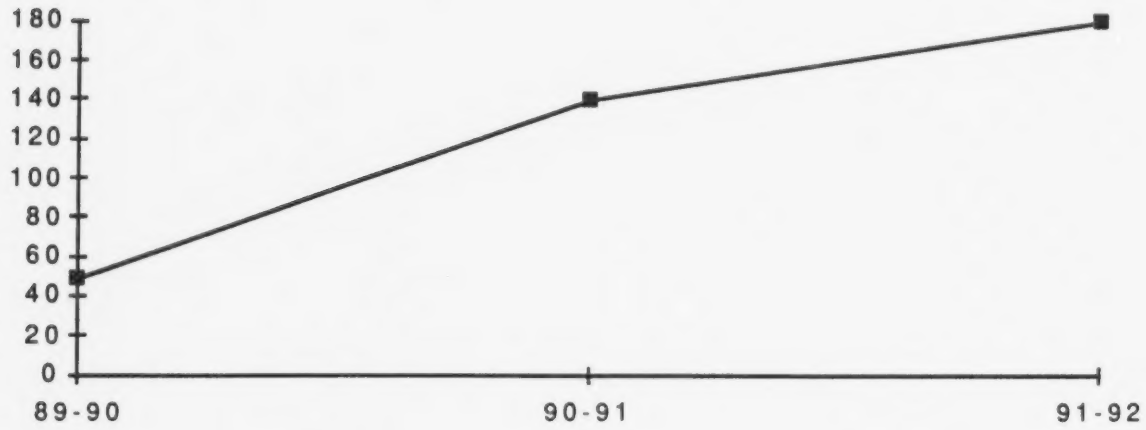
To provide students with entry level skills and knowledge to function effectively as a registered nurse.

HEALTH INDICATORS - NURSING

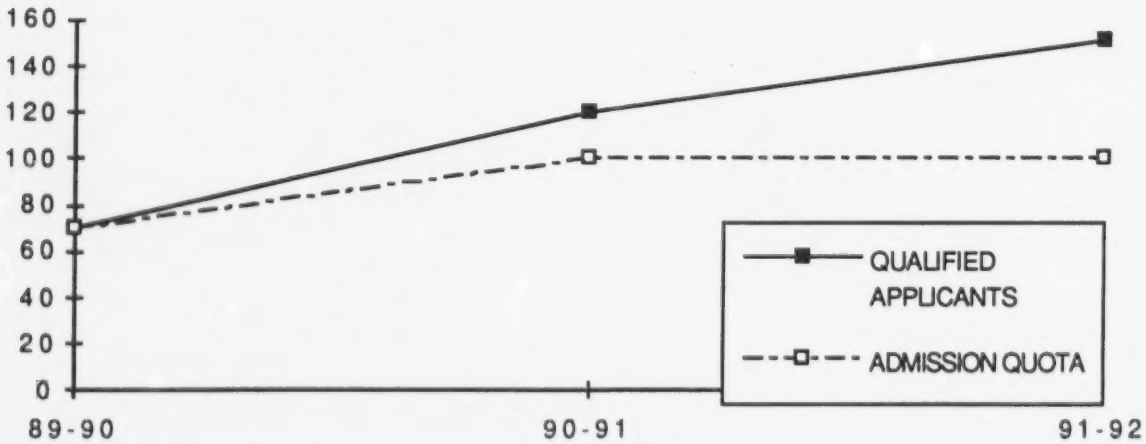


PROGRAM TREND DATA

ASSOCIATE DEGREE NURSING ENROLLMENTS

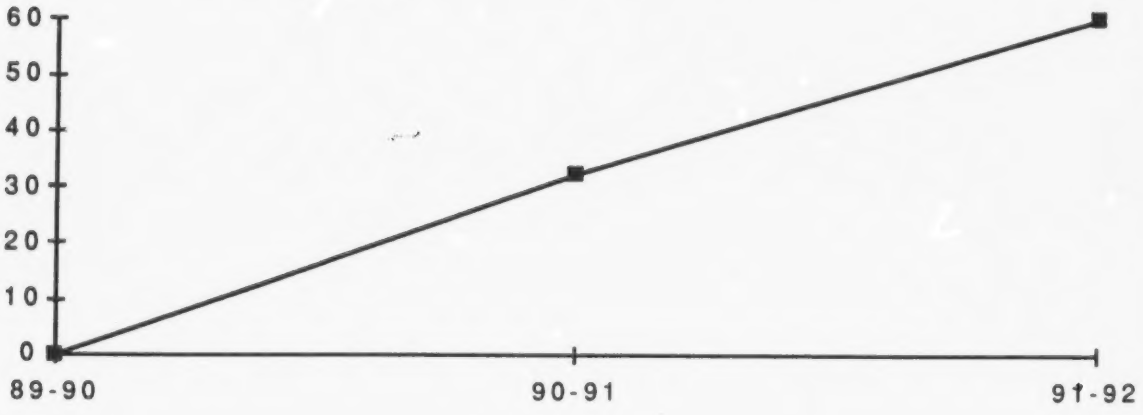


ADMISSION DATA - ASSOCIATE DEGREE NURSING



PROGRAM TREND DATA

GRADUATES - ASSOCIATE DEGREE NURSING



PROGRAM DATA SUMMARY

PROGRAM: NURSING (ADN) **SEMESTER:** FALL 1991

1. PROGRAM DEMAND

Total Number of Applicants:	128	FTE Major Students:	138
Total Qualified Applicants:	52	FTE Other Students:	0%
New Students:	40	% Special Population:	20.0%
Continuing Students:	140		
Total Majors:	180		

Current Work Force:	7,500	Total Openings/Year:	1,200
Projected Work Force:	8,700	New Openings/Year:	300

2. PROGRAM EFFICIENCY

Classes Taught:	56	Average Class Size:	10
# of Small Classes:	5	% Small Classes:	8.9%
Total Semester Hours:	246	% Sem Hr by Lecturer:	0%
Total Student Sem. Hours:	2,072	FTE Students/FTE Fac.:	8.6
Cost per Student Sem. Hour:	$231		

3. PROGRAM OUTCOMES

Credit Earned Ratio (Major):	90.6	Standard = 75.0
Credit Earned Ratio (Remedial):	NA	Standard = 60.0
Credit Earned Ratio (Gen. Ed.):	87.5	Standard = 65.0
% Retention of New Majors:	90	Standard = 50.0
Degrees Awarded:	32	
Graduation Rate (Fed):	NA	
Graduation Rate (UH):	75%	
Student Transfer Rate:	14%	
% Grads Employed in Field:	98.3%	Standard = 70.0
Licensing Rate:	85.0%	
Graduate Satisfaction Rate:	4.7	
Leaver Satisfaction Rate:	NA	

PROGRAM ANALYSIS AND RECOMMENDATIONS

The nursing program has generally performed above the expected levels. There are no major problems facing the program at this time.

An analysis of the student success rate on the licensure examination, which was lower than desirable, reveals that many of the failures were among students who were completing the program after being admitted as licensed practical nurses rather than as full two year students. It is unclear yet whether this is the result of the LPN students being out of school for some time and therefore not as familiar with the content of the first year courses, whether this is a one time problem, or whether there is some other unknown cause. **It is recommended that an analysis be done of the areas of the test on which students did poorly and whether that is related to the curriculum sequencing taken by LPN admittees. It is further recommended that this performance be monitored in future years and that LPN graduates be encouraged to participate in licensure preparation courses.**

Discussion with local hospital personnel indicate that there is beginning to be a slight improvement in the severe shortage for registered nurses in the State. **It is recommended that this trend should be monitored to see if the demand will continue to drop in the years to come.**

There is now a significant surplus in the number of qualified students and the number of students that can be admitted each term. The qualified students who are turned down for admission after investing one to two years in preparatory course work are likely to be very upset. **It is recommended that a committee be formed to examine the admission issues and consider the initiation of a pre-nursing major that were provide for guaranteed admission for qualified students.**

The nursing program is applying for initial accreditation from the National League of Nursing in 1992. This may result in curricular or other changes being recommended in response to the accreditation report and site visit. Final action on the accreditation is expected in January 1993.